



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## New Jersey Agricultural Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (PLANT VARIETY PROTECTION ACT, 54 STAT. 2686, 7 U.S.C. 2132 ET SEQ.)

KENTUCKY BLUEGRASS

'Eclipse'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 30th day of July in the year of our Lord one thousand nine hundred and eighty-one.

Attest:

*Dynamis K. Lee*  
Commissioner  
Plant Variety Protection Office  
Grain Division  
Agricultural Marketing Service

*John R. Block*  
Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

FORM APPROVED  
OMB NO. 40-R3822

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY NJE P-164		1b. VARIETY NAME Eclipse		FOR OFFICIAL USE ONLY PV NUMBER 8000154	
2. KIND NAME Kentucky bluegrass		3. GENUS AND SPECIES NAME Poa pratensis L.		FILING DATE 9/3/80	TIME 11:30 A.M.
4. FAMILY NAME (BOTANICAL) Gramineae		5. DATE OF DETERMINATION March 1978		FEE RECEIVED \$ 500.00 \$ 250.00	DATE 9/3/80 5/27/81
6. NAME OF APPLICANT(S) New Jersey Agricultural Experiment Station		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Department of Soils and Crops New Brunswick, NJ 08903		8. TELEPHONE AREA CODE AND NUMBER 201-932-9480	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION New Jersey		11. DATE OF INCORPORATION 1880	
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: a. Dr. C. Reed Funk, Soils & Crops Dept., Rutgers University, New Brunswick, NJ 08903 b. Mr. Arden W. Jacklin, Jacklin Seed Company, W.17300 Jacklin Avenue, Post Falls, ID					

83854

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- ☐ 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.)		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?		
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED		
15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)			
15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)			

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

September 24, 1979  
(DATE)

C. Reed Funk

(SIGNATURE OF APPLICANT)

Sept 1 1979  
(DATE)

Arden W. Jacklin

(SIGNATURE OF APPLICANT)

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## INSTRUCTIONS

**GENERAL:** Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

## ITEM

- 5 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 13a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- 13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.
- 14a If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)
- 15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.



EXHIBIT AORIGIN AND BREEDING HISTORY OF THE VARIETY  
ECLIPSE KENTUCKY BLUEGRASS

1. Breeders reference number: NJE P-164 or B-959 Kentucky bluegrass
2. During the spring of 1963 a Kentucky bluegrass plant was collected from Saucon Park, Pennsylvania. This plant was transplanted to a spaced-plant nursery field "O" on June 18, 1963. This plant was designated 63-535-2. During the spring of 1964 this plant was used as a female parent and hybridized with Belturf Kentucky bluegrass, producing a spaced-plant progeny of 30 plants. Six hybrids were observed in this progeny. Plant 64-765-4 was selected in the spring of 1965 and used as a female parent in a cross with Anheuser Dwarf. A spaced-plant progeny of this cross was planted during the fall of 1965 in field "K". A highly variable progeny indicated that plant 64-765-4 was highly sexual. Plant 65-1624-10 was selected from this progeny in June of 1966. Seed was harvested from this plant and used to plant plot B-959 in September 1966. Because of superior performance of this selection under turf maintenance, tillers were obtained from this plot during the summer of 1970 and used to establish a seed increase row at Adelphia and a turf evaluation plot at Princeton Turf Farms. A spaced-plant progeny test of NJE P-164 established at Adelphia in September 1971 showed that NJE P-164 is highly apomictic. During the fall of 1971 seed was sent to the University of Rhode Island, North Carolina State University, The Pennsylvania State University, and Turf-Seed, Inc. for test purposes.

3. Spaced-plant progeny trials conducted at Adelphia, New Jersey confirmed that Eclipse is highly apomictic. Breeder seed is produced by rouging all non-maternal and questionable plants from spaced-plant nurseries and harvesting seed only from maternal-type plants.
4. Eclipse produces fewer off-type aberrants than most commercially available cultivars of Kentucky bluegrass. These aberrants are normally smaller and less vigorous than the maternal-type plants. They have not been observed to detract from turf quality or uniformity.
5. All seed lots evaluated have produced turf of comparable quality and acceptable uniformity.

EXHIBIT B  
NOVELTY STATEMENT ON ECLIPSE KENTUCKY BLUEGRASS

Eclipse is a low growing, leafy, turf-type Kentucky bluegrass capable of producing an attractive, dark green turf of good vigor, good density, and medium texture. Eclipse has shown good performances in turf trials in New Jersey (Tables 1,2,3,4,5,6,7) and Rhode Island (Table 29). Eclipse showed good resistance to powdery mildew in a spaced-plant nursery at Adelphia, New Jersey during May 1974 (Table 9). Eclipse was significantly more resistant than Plush, Campina, Baron, Cheri, Geronimo, Majestic, Prato, Brunswick, Bonnieblue, Adelphi, Vantage, Rugby, Parade, Pennstar, Fylking, Merion, or Windsor. Eclipse showed good resistance to stem rust in New Jersey turf trials rated on September 26, 1976 and September 1979 (Tables 10 and 11). Eclipse was significantly more resistant than Victa, Brunswick, Cheri, Baron, Fylking, Nugget, Birka, Touchdown, or Merion in the 1974 test. Eclipse was significantly more resistant than Bonnieblue, Majestic, Welcome, Enaldo, Geronimo, Dormie, or Merion in the 1978 test. Eclipse showed good resistance to the leaf rust disease in a spaced-plant nursery at Adelphia, New Jersey (Table 12). Eclipse showed significantly better resistance than Monopoly, Cheri, Geronimo, Prato, Windsor, Merion, Baron, RAM 1, Victa, Brunswick, Plush, or Vantage. Eclipse also showed above average resistance to dollar spot in three New Jersey tests (Tables 13, 14, and 15). Eclipse appeared to have better resistance than Baron, RAM 1, Touchdown, Cheri, Nugget, Kimono, Glade, Geronimo, or Fylking. Eclipse showed better resistance to stripe smut than Merion (Table 16). Eclipse appeared to show less damage from the bluegrass billbug in a turf trial at

Adelphia, New Jersey than Birka, Merion, Cheri, Bonnieblue, Warren's A-34, Nugget, or RAM 1.

Eclipse is a moderately late maturing bluegrass (Tables 18 and 19). Eclipse exhibited a significantly later date of anthesis than Nugget, Delta, Touchdown, Scenic or Newport in a spaced-plant nursery near Albany, Oregon. However, Eclipse showed an earlier anthesis date than Merion, Glade, Enmundi, or America. Eclipse showed a rather low plant height (Table 20) somewhat taller than Nugget but significantly shorter than Baron, Enoble, Fylking, Touchdown, Adelphi, Newport, Scenic, or Delta.

The panicle length of Eclipse (Table 21) was longer than Nugget but significantly shorter than Touchdown, Enoble, Newport, Fylking, Adelphi, Scenic, or Delta. The flag leaf on Eclipse was significantly longer than Nugget, but significantly shorter than America, Fylking, Newport, Glade, Adelphi, Delta, or Scenic.

Eclipse had more branches at the lowest panicle whirl compared with Nugget but fewer than Adelphi, Enmundi, Enoble, Fylking, Merion, Newport, Scenic, Delta, America, or Baron (Table 23). Eclipse had a higher seed weight per panicle than Nugget but a lower weight than Scenic, Enoble, or Delta (Table 26). Eclipse showed a lessor degree of purple color during January 1980 at Adelphia, New Jersey than Plush, Benverde, Enaldo, Kimono, Merion, Glade, Wabash, Welcome, Dormie, or Geronimo (Table 27). Eclipse has shown only moderate seed yields in trials near Post Falls, Idaho (Table 28).

Eclipse most clearly resembles Adelphi Kentucky bluegrass, However, close comparisons show that the cultivars differ in a number of characteristics as follows:

1. Eclipse shows significantly greater resistance to powdery mildew (Table 9). *'Eclipse' is highly resistant while 'Adelphi's' susceptible*
2. Eclipse produced a significantly lower growing plant (Table 20) with a significantly shorter panicle (Table 21), a significantly shorter flag leaf (Table 22) and fewer branches at the lowest panicle whorl (Table 23) in a spaced-plant nursery near Albany, Oregon. *JGW 4/23/81*

Table 9. Reaction of Kentucky bluegrass cultivars and selections to powdery mildew in a spaced-plant nursery at Adelphia, New Jersey during May 1974.

Cultivar or selection	Powdery mildew* rating 9 = most disease
1. Eclipse	0.0
2. Glade	0.0
3. Touchdown	0.0
4. Grenada	0.0
5. Anheuser Dwarf	0.0
6. Nugget	0.0
7. Monopoly	0.0
8. P-141	0.0
9. Ram 1	0.0
10. Sydsport	0.5
11. Enmundi	0.5
12. Birka	0.5
13. Bristol	1.0
14. Plush	2.0
15. Campina	2.5
16. Baron	3.0
17. Cheri	3.5
18. Victa	3.5
19. Geronimo	4.0
20. Majestic	5.0
21. Prato	5.5
22. Brunswick	5.5
23. Bonnieblue	6.0
24. Adelphi	6.5
25. Vantage	6.5
26. Rugby	7.0
27. Parade	7.0
28. Pennstar	7.0
29. Fylking	7.0
30. Merion	8.0
31. Windsor	9.0
LSD @ 5%	1.4

\* Powdery mildew caused by Erysiphe graminis Pers.

Table 11. Reaction of Kentucky bluegrass cultivars to stem rust in turf trials seeded September 1978 at Adelphia, New Jersey.

Cultivar or selection	Stem rust rating 9 = most
1. Eclipse	0.0
2. Wabash	0.0
3. P-59	0.2
4. PS-1528T	0.3
5. America	0.3
6. Plush	0.3
7. Glade	0.8
8. IS-128	1.2
9. Kimono	1.3
10. Bonnieblue	1.7
11. Majestic	1.7
12. Benverde	1.7
13. Welcome	1.8
14. PS-535	1.8
15. HT-1	1.8
16. PS-1	1.8
17. Enaldo	2.0
18. Geronimo	2.2
19. Dormie	3.0
20. Merion	5.8
LSD at 5%	1.3

Table 12. Reaction of Kentucky bluegrass cultivars and selections to leaf rust in a spaced-plant nursery at Adelphia, New Jersey during May 1974.

Cultivar or selection	Leaf rust* rating 9 = most disease
1. Sydsport	0.0
2. Glade	0.5
3. Eclipse	1.0
4. Touchdown	1.0
5. Grenada	1.0
6. Enmundi	1.0
7. Bristol	1.0
8. Campina	1.0
9. Majestic	1.0
10. Bonnieblue	1.0
11. Adelphi	1.0
12. Rugby	1.0
13. Parade	1.0
14. Pennstar	1.0
15. Anheuser Dwarf	1.0
16. Nugget	1.5
17. Birka	2.0
18. Fylking	2.0
19. Monopoly	3.0
20. Cheri	3.0
21. Geronimo	3.0
22. Prato	3.0
23. Windsor	3.0
24. Merion	3.0
25. Baron	3.5
26. P-141	4.0
27. RAM 1	4.0
28. Victa	4.0
29. Brunswick	4.0
30. Plush	5.0
31. Vantage	7.0
LSD @ 5%	1.1

\* Leaf rust caused by Puccinia poae-nemoralis Otth.

Table 14. Reaction of Kentucky bluegrass cultivars and selections to *Sclerotinia dollar* spot in turf trials seeded September 1975 at North Brunswick, New Jersey.

Cultivar or selection	Number of diseased spots* per plot
1. Eclipse	0
2. Bonnieblue	0
3. Majestic	0
4. Banff	0
5. Adelphi	1
6. Vantage	1
7. Anheuser Dwarf	2
8. Bristol	4
9. Warren's A-34	5
10. Trenton	5
11. Vanessa	11
12. Wabash	17
13. Touchdown	19
14. Mosa	20
15. Fylking	42
16. Princeton 104	45
17. Brunswick	45
18. Plush	110
19. RAM 1	115
20. Merion	160
21. Kimono	222
22. Baron	228
23. Glade	235
24. Geronimo	235
25. Nugget	425

\*Disease incited by *Sclerotinia homoeocarpa*

Table 19. Anthesis dates of Kentucky bluegrass cultivars grown in a spaced-plant nursery near Albany, Oregon.

Cultivar	Anthesis date
1. Nugget	May 14
2. Delta	May 15
3. Touchdown	May 15
4. Scenic	May 15
5. Newport	May 15
6. Enoble	May 19
7. Baron	May 19
8. Eclipse	May 19
9. Adelphi	May 23
10. Fylking	May 23
11. Merion	May 28
12. Glade	May 28
13. Enmundi	May 28
14. America	May 30
LSD at 5%	3 days

Table 20. Plant height measurements of Kentucky bluegrass cultivars grown in a spaced-plant nursery near Albany, Oregon.

Cultivar	Plant height cm
1. Nugget	15
2. America	21
3. Glade	25
4. Eclipse	26
5. Enmundi	26
6. Merion	30
7. Baron	35
8. Enoble	39
9. Fylking	42
10. Touchdown	42
11. Adelphi	48
12. Newport	60
13. Senic	76
14. Delta	87
LSD at 5%	6

Table 21. Panicle length measurements of Kentucky bluegrass cultivars grown in a spaced-plant near Albany, Oregon

Cultivar	Panicle length
1. Nugget	45
2. Merion	65
3. Enmundi	66
4. Baron	67
5. Eclipse	69
6. America	72
7. Glade	75
8. Touchdown	78
9. Enoble	83
10. Newport	84
11. Fylking	98
12. Adelphi	115
13. Scenic	136
14. Delta	147

LSD at 5%

Table 22. Flag leaf length measurements of Kentucky bluegrass cultivars grown in a spaced-plant nursery near Albany, Oregon.

Cultivar	Length of flag leaf mm
1. Nugget	14
2. Merion	28
3. Touchdown	29
4. Enoble	33
5. Eclipse	35
6. Baron	36
7. Enmundi	37
8. America	42
9. Fylking	43
10. Newport	47
11. Glade	49
12. Adelphi	49
13. Delta	76
14. Scenic	97
LSD at 5%	8

Table . Reaction of Kentucky bluegrass cultivars and selections to the leaf spot and crown rot disease incited by Helminthosporium vagans Drechsler in turf trials seeded September 1977 at Adelphia, New Jersey.

Cultivar or selection	Percent diseases			
	April 2 1980	April 7 1980	May 8 1980	1980 Avg.
1. FS188 x P29	1.3	1.0	1.3	1.2
2. K848	1.0	1.0	1.5	1.2
3. K1031	1.0	1.0	2.0	1.3
4. Cebeco VB3965	2.3	1.3	1.3	1.6
5. K860G	2.0	1.7	1.3	1.7
6. K808	2.7	1.3	1.3	1.8
7. Princeton 104	2.0	1.3	2.0	1.8
8. F1080 FS188 x P29	2.3	1.7	1.3	1.8
9. P-101	1.3	1.0	3.3	1.9
10. N1213	3.0	2.0	1.0	2.0
11. Columbia	1.0	1.0	4.0	2.0
12. F1145 P59 x ANH	2.7	2.0	1.7	2.1
13. NK P-66	2.3	1.7	2.3	2.1
14. M65-4-P57	2.3	1.3	2.7	2.1
15. Rugby	1.3	1.0	4.3	2.2
16. P59 x P29	2.3	2.0	2.3	2.2
17. S2096 FS188 x P29	1.5	2.0	3.0	2.2
18. Banff	1.3	1.7	4.0	2.3
19. PS1528T	3.3	2.3	1.7	2.4
20. F1807 P59 x P29	2.7	3.0	1.7	2.5
21. H-1	2.0	1.0	4.7	2.6
22. Majestic	3.3	1.7	3.0	2.7
23. RR-10	1.7	1.0	5.3	2.7
24. Pion	1.7	1.3	5.0	2.7
25. Bar pp 736 V353	1.5	1.5	5.5	2.8
26. Escort	1.3	1.3	5.7	2.8
27. WW Ag 478	3.7	3.3	1.3	2.8
28. Eclipse	2.7	1.7	4.3	2.9
29. Bristol Scotts	3.0	1.7	4.3	3.0
30. Eclipse	3.7	2.7	2.7	3.0

Table . Reaction of Kentucky bluegrass cultivars and selections to the leaf spot and crown rot disease.....(cont'd)

Cultivar or selection	Percent Disease			1980 Avg.
	April 2 1980	April 7 1980	May 8 1980	
31. Pacific	4.0	2.0	3.0	3.0
32. Mom pp H128	1.0	1.0	7.0	3.0
33. K854	3.0	2.0	4.0	3.0
34. N1309 P25 x Nugget	4.7	3.0	2.0	3.2
35. N362 P123 x P29	3.0	1.7	5.0	3.2
36. Nk K2-16	2.0	1.3	6.3	3.2
37. Kalypso	1.7	2.0	6.0	3.2
38. Birka	4.0	2.0	4.0	3.3
39. WW Ag463	2.3	2.0	5.7	3.3
40. Columbia	1.3	1.0	7.7	3.3
41. 3133 K248	2.0	2.0	6.0	3.3
42. Vanessa	5.3	3.3	1.7	3.4
43. NK K1-152	1.0	1.0	8.3	3.4
44. WW Ag436	2.0	2.7	5.7	3.5
45. NK K1-150	4.3	3.7	2.7	3.6
46. Adelphi	3.0	2.0	6.0	3.7
47. Adelphi	2.7	2.3	6.0	3.7
48. Touchdown	3.7	3.3	4.3	3.8
49. Trenton	2.7	1.7	7.0	3.8
50. Barmezzo	2.5	2.5	6.3	3.8
51. EVB4348	2.7	1.3	7.7	3.9
52. Mosa	5.7	3.0	3.0	3.9
53. Fylking	2.3	3.0	6.3	3.9
54. Parade	3.0	1.3	7.3	3.9
55. Merion	3.3	3.3	5.3	4.0
56. NK K3-166	2.0	2.3	7.7	4.0
57. WK 412	5.3	3.7	3.3	4.1
58. WW Ag452	2.3	2.3	7.7	4.1
59. Bel-20	1.7	1.3	9.3	4.1
60. Baron	3.0	2.3	7.0	4.1
61. Birka	5.0	2.7	5.0	4.2
62. Enmundi	3.0	4.0	5.7	4.2
63. Kimono	4.3	3.0	5.7	4.3
64. EVB 5517	5.0	3.0	5.0	4.3
65. FFR 9030	3.0	1.7	8.7	4.5

Table . Reaction of Kentucky bluegrass cultivars and selections to the leaf spot and crown rot disease.....(cont'd)

Cultivar or selection	Percent Disease			1980 Avg.
	April 2 1980	April 7 1980	May 8 1980	
66. Pl16	1.5	2.0	10.0	4.5
67. NK K1-148	4.0	6.0	3.7	4.6
68. Touchdown	4.0	3.3	7.0	4.8
69. Ram 2A	6.0	2.3	6.0	4.8
70. PI 349, 181	7.0	4.7	2.7	4.8
71. NS	5.3	3.0	6.0	4.8
72. Cebeco VB533	3.0	4.0	7.7	4.9
73. Plush	4.3	3.7	7.0	5.0
74. Pl48	5.0	3.7	6.3	5.0
75. Twin Brooks Shade	3.7	5.7	7.3	5.6
76. NK K3-157	4.7	4.7	7.7	5.7
77. WW Ag 462	3.0	2.7	11.7	5.8
78. EVB 5515	5.0	4.7	8.0	5.9
79. Enaldo	6.0	2.7	9.0	5.9
80. S2094 P57 x ANH	6.3	4.0	8.0	6.1
81. Cebeco 4699	3.3	3.0	12.0	6.1
82. EVB 3919	3.7	3.7	11.3	6.2
83. WW Ag 520	5.0	6.3	7.7	6.3
84. NK P-148	5.3	4.0	11.0	6.8
85. PS BFB-35	8.0	3.0	9.3	6.8
86. WTN-A-20	3.0	3.5	14.0	6.8
87. Bel-21	4.0	4.3	12.0	6.8
88. NK K3-160	5.0	3.7	12.3	7.0
89. WW Ag 477	4.7	5.3	12.3	7.4
90. Victa	6.0	5.3	11.0	7.4
91. Merit	4.3	3.3	14.7	7.4
92. Fanfare	6.0	3.0	14.3	7.8
93. WW Ag 467	8.7	9.7	9.0	9.1
94. Cheri	6.7	5.0	16.3	9.3
95. Geronimo	4.0	2.7	21.7	9.5
96. Fl925	9.7	7.3	12.3	9.8
97. Mom PP1393	6.5	5.5	17.5	9.8
98. NK K1-159	6.0	7.7	16.0	9.9
99. Glade	13.3	7.0	11.3	10.5
100. P-143	6.3	5.3	23.3	11.6

Table . Reaction of Kentucky bluegrass cultivars and selections to the leaf spot and crown rot disease.....(cont'd)

Cultivar or selection	Percent Disease			1980 Avg.
	April 2 1980	April 7 1980	May 8 1980	
101. Glade	18.3	12.7	11.6	14.2
102. Orna	12.7	15.7	14.7	14.4
103. Aquila	11.0	12.0	26.7	16.6
104. Scenic	6.0	3.3	45.0	18.1
105. WW Ag 468	33.3	17.0	4.7	18.3
106. P-154	5.3	5.0	45.0	18.4
107. P-154	4.3	3.3	49.3	19.0
108. Cebeco 8054/8058	12.7	28.3	23.3	21.4
109. Welcome	31.7	16.7	20.0	22.8
110. PS BFB-25	20.7	15.3	35.0	23.7
111. WW Ag 401	18.3	30.0	33.3	27.2
112. Newport	18.3	23.3	41.7	27.8
113. Harmony	35.0	23.3	47.3	35.2
114. Ba 68-292	43.3	45.0	36.7	41.7
115. Ba 68-405	41.3	51.7	37.3	43.4
116. HT-1	21.7	36.7	78.3	45.6
117. Ba 69-96	48.3	54.0	40.7	47.7
118. NK K1-160	29.0	31.7	85.0	48.6
119. Piedmont	40.0	43.3	93.7	59.0
120. G22-989	56.7	71.7	66.7	65.0
121. S-21	52.7	50.0	94.3	65.7
122. PS #2	48.3	65.0	85.0	66.1
123. NK K1-76	56.7	53.3	93.3	67.8
124. Kenblue	53.3	60.0	91.7	68.3
125. HT-1A	61.7	70.0	85.0	72.2
126. NK K1-140	70.0	70.0	85.0	75.0
127. NK K1-88	70.0	83.3	80.3	77.9
128. Geary	70.0	68.3	96.0	78.1
129. Park	66.7	76.7	94.3	79.2
130. NK K1-119	80.0	71.7	96.0	82.6
131. NK K1-80	83.3	83.3	95.3	87.3

FORM GR-470-18  
(1-15-73)UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
GRAIN DIVISION  
HYATTSVILLE, MARYLAND 20782EXHIBIT C  
(Bluegrass)OBJECTIVE DESCRIPTION OF VARIETY  
BLUEGRASS (POA SPP.)

NAME OF APPLICANT(S) New Jersey Agricultural Experiment Station	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Department of Soils and Crops, Cook College, Box 231, Rutgers University, New Brunswick, NJ 08903	PVPO NUMBER 8000154
	VARIETY NAME OR TEMPORARY DESIGNATION ECLIPSE

Place the appropriate number that describes the varietal character of this variety in the boxes below.  
Place a zero in first box (e.g.  or ) when number is either 99 or less or 9 or less.

## 1. KIND:

 1 = POA COMPRESSA 2 = P. PRATENSIS 3 = P. TRIVIALIS 4 = OTHER (Specify) \_\_\_\_\_

## 2. REGION OF BEST ADAPTATION:

 1 = NORTHEAST 2 = TRANSITIONAL ZONE 3 = NORTH CENTRAL 4 = PACIFIC N.W. 5 = OTHER (Specify) \_\_\_\_\_

## 3. MATURITY (At First Anthesis):

 1 = EARLY (Delta) 2 = MEDIUM EARLY (Fylking) 3 = MEDIUM (Newport) 4 = LATE (Merion)

<input type="text" value="0"/> <input type="text" value="9"/>	NUMBER OF DAYS EARLIER THAN .....	<input type="text" value="4"/>	} 1 = NUGGET 2 = FYLKING 3 = DELTA 4 = MERION 5 = NEWPORT 6 = BARON
<input type="text" value="0"/> <input type="text" value="5"/>	NUMBER OF DAYS LATER THAN .....	<input type="text" value="1"/>	

## 4. PLANT HEIGHT (Longest Shoot from Soil Surface to Top of Head):

 CM. HEIGHT

<input type="text" value="6"/> <input type="text" value="1"/>	CM. SHORTER THAN .....	<input type="text" value="3"/>	} 1 = NUGGET 2 = FYLKING 3 = DELTA 4 = MERION 5 = NEWPORT 6 = BARON
<input type="text" value="1"/> <input type="text" value="1"/>	CM. TALLER THAN .....	<input type="text" value="1"/>	

## 5. HABIT:

 1 = PROSTRATE (Fylking) 2 = SEMI-PROSTRATE (Merion)  
3 = ERECT (Delta)

## 6. VEGETATIVE REPRODUCTION (1 = Absent; 2 = Present):

 RHIZOMES  STOLONS

## 7. LEAF BLADE:

 Color: 1 = LIGHT GREEN (Rough Bluegrass) 2 = BLUE GREEN (Canada Bluegrass) 3 = MODERATELY DARK GREEN (Merion)  
4 = DARK GREEN (Adelphi) 5 = OTHER (Specify) \_\_\_\_\_ Upper Surface: 1 = SHINY 2 = DULL  Lower Surface: 1 = SHINY 2 = DULL MM. LENGTH

## 8. LEAF SHEATH (Base):

 Seedling Color: 1 = GREEN 2 = RED  Keel: 1 = NOT KEELED 2 = KEELED

## Surface:

 1 = GLABROUS 2 = PUBESCENT  1 = SMOOTH 2 = ROUGH  1 = NON-GLAUCOUS 2 = GLAUCOUS

## 9. LEAFINESS (At First Anthesis):

 Number of leaves per tiller or shoot: 1 = FEW (1 - 3) 2 = INTERMEDIATE (4 - 6) 3 = MANY (More than 6)

## 10. PANICLE:

 MM. LENGTH

<input type="text" value="0"/> <input type="text" value="2"/> <input type="text" value="4"/>	MM. LONGER THAN .....	<input type="text" value="1"/>	} 1 = NUGGET 2 = FYLKING 3 = DELTA 4 = MERION 5 = NEWPORT 6 = BARON
<input type="text" value="0"/> <input type="text" value="7"/> <input type="text" value="8"/>	MM. SHORTER THAN .....	<input type="text" value="3"/>	

FORM GR-470-18 (Reverse)

## 10. PANICLE (Cont.):

   NUMBER OF PANICLES PER PLANT  1  0  0 MILLIGRAMS SEED PER PANICLE

 2 Branches LOWEST WHORL: 1 = DROOPING (Prato) 2 = HORIZONTAL (Merion) 3 = OTHER (Specify)

See Table 24

 Panicle Habit: 1 = NODDING (Newport) 2 = UPRIGHT (Nugget)   MM. SPIKELET LENGTH

## 11. LEMMA

 3 KEEL *moderate pubescence* } 1 = GLABROUS 2 = SLIGHTLY PUBESCENT 3 = PUBESCENT 4 = OTHER (Specify)

 3 LATERAL NERVES

 Intermediate Nerves: 1 = DISTINCT 2 = OBSCURE  Basal Webbing: 1 = NONE 2 = SCANT 3 = COPIOUS

## 12. SEED:

 1 Apomictin Percentage: 1 = MORE THAN 95 2 = 85 TO 95 3 = LESS THAN 85

 3 Phenol Reaction: 1 = NONE - LEMMA REMOVED (Merion) 2 = BEIGE (Cougar) 3 = BROWN (Windsor)  
4 = BLACK (Delta - 2 hours) 5 = BLACK (Anheuser - 24 hours)

 0  6  9 MM. WIDTH  2  6  0 MM. LENGTH  3  5  5 GRAMS PER 10,000 SEEDS   CHROMOSOME NO. (2n)

## 13. TURF DENSITY MAINTENANCE AT ONE INCH CUT:

 2 1 = POOR 2 = MODERATE (Merion) 3 = SUPERIOR (Nugget) 4 = EXCELLENT

## 14. VERTICAL GROWTH RATE:

 1 1 = SLOW (Nugget) 2 = MEDIUM (Merion) 3 = FAST (Delta) 4 = OTHER (Specify relation to a standard)

## 15. SPRING GREEN UP:

 2 1 = EARLY (Windsor) 2 = MEDIUM (Fyking) 3 = LATE (Nugget)

## 16. FALL DORMANCY: (1 = Not Dormant; 2 = Intermediate; 3 = Dormant)

 NORTHERN ( $42^{\circ} 30' \pm 30'$  Lat.)  1 INTERMEDIATE ( $40^{\circ} \pm 30'$  Lat.)  SOUTHERN ( $37^{\circ} 30' \pm 30'$  Lat.)

## 17. SEEDLING VIGOR (Growth Rate):

 2 Seedling: 1 = SLOW 2 = MEDIUM 3 = FAST

## 18. ENVIRONMENTAL RESISTANCE: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

<input type="text"/> 2 COOL TEMPERATURE (Winter color)	<input type="text"/> 2 COLD (Injury)	<input type="text"/> 2 HEAT	<input type="text"/> 2 DROUGHT
<input type="text"/> 2 SHADE	<input type="text"/> 2 POOR FERTILITY	<input type="text"/> 0 ACID SOIL	<input type="text"/> 0 ALKALINITY
<input type="text"/> 0 SALINITY	<input type="text"/> 0 SOIL COMPACTION	<input type="text"/> 2 POOR DRAINAGE	<input type="text"/> 0 AIR POLLUTION
<input type="text"/> OTHER (Specify)			

## 19. DISEASE, INSECTS, AND NEMATODE RESISTANCE: (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

<input type="text"/> 2 HELMINTHOSPORIUM VAGANS	<input type="text"/> 0 H. SOROKINIANUM	<input type="text"/> 0 H. DICTYOIDES	<input type="text"/> 2 RHIZOCTONIA SOLANI
<input type="text"/> 2 <i>highly resistant</i> ERYSIPIHE GRAMINIS <i>4/23/81</i>	<input type="text"/> 2 USTILAGO STRIIFORMIS	<input type="text"/> 0 FUSARIUM NIVALE	<input type="text"/> 0 F. ROSEUM
<input type="text"/> 0 TYPHULA IOTANA	<input type="text"/> 2 SCLEROTINIA HOMEOCARPA	<input type="text"/> 2 PUCCINIA GRAMINIA	<input type="text"/> 0 P. STRIIFORMIS
<input type="text"/> 0 PYTHIUM ULTIMATUM	<input type="text"/> 0 CRAMBUS BONIFATELLUS	<input type="text"/> 2 OTHER (Specify) <i>Puccinia foae-memorialis</i>	

## REFERENCE

Nickerson's or any recognized color fan may be used to determine plant colors of the described variety.